

August 3, 1953

Dear Dr. Lederberg,

Using Weed's synthetic medium, and  $\text{Cu}^{++} 5 \times 10^{-6} \text{M}$ , I got killing with both 69A (the B strain) and K12 in the W(Cu) medium as compared to the W(O). The tubes were sampled every four or five hours until 30 hours, and dilutions plated out on B(lac) and on NSA. There were no lac- colonies on ~~any~~ any of the lactose plates. The only small colonies I observed appeared on the more crowded plates, and on these there was a whole range of colony size variation. The experiment was repeated with the same results. Ten of the smallest (and five large for comparison) colonies were taken from each plate (69A and K12, in W(O) and W(Cu)) of the thirty hour sample, and were streaked out on NSA and spotted on B(lac). None gave rise to small colonies and all were lact+. I will try once more with a higher  $\text{Cu}^{++}$  CONC. and will leave the results for you.

Weed's K12, as you mentioned, doesn't grow on our synthetic medium, although the small colony derivative does. I don't know yet what it requires, beyond the fact that it is growing on a.a.3 (β al, tyro, trypto).

I also repeated his experiment where several tubes of W(Cu) are inoculated with low concentrations of cells to rule out mutation-and-selection hypothesis. I inoculated 15 tubes W(Cu) and one W(O) with 0.1 ml dilute suspension of 69A cells, and also plated 0.1 ml of the suspension on NSA. Plate count was 1684, so final tube dilution was about 170/ml. Nothing grew in any of the tubes (in 6 days) and I repeated with same results (in 4 days).

From your cross of Hfr gal+S<sup>+</sup> x F- gal-S<sup>R</sup> (both M-) you gave me two gal+ (M-) progeny which crossed to TLB- ... (W595) gave only a few prototrophs: A1-18, A2-4, (controls A1, A2, 595, no colonies) in SRP cross on S lac sm. I don't know yet the results with F+ cross. In regard to the sugar fermentation characters of these two, A1 is lac+, A2 is lac- with several + papillae; both are gal+, when streaked out gave only gal+, and ten colonies each from these plates gave only gal+ when further streaked out. B(gal).

I made the slant, directly from the stab, of the Stanford 58 (biotinless) for Lardy, and just as a precaution checked it in D(O) and D(O)+biotin. It grew in both, but I was able to purify it all right and I gave him a good slant. I am replacing the stab, too.

Around the lab: Sidney Thorp now does all the medium, checks shelves, and still helps also with the dishwashing.

Shipments received:

7/30 4 large, 4 small plastic screw cap vials, from DuPont, Polychem dept.; small box from Public Health lab, County Hospital, Hereford, England (refrigerated immediately); one case Petri dishes 100x10mm (lids and bottoms) from Chicago Apparatus Co., with no apparent breakage, though we didn't unpack them, and I saved the accompanying memorandum.

8/3 A can from Chamblee, also refrigerated immediately.

Tom was accosted by two fellows late last night in front of the building. He yelled and ran. Boris and I went tearing out to see what went on, but found nothing and no one. Then Tom phoned from a nearby bar and told us what had happened, and to take care, and I shouldn't go home alone. After that the police came and spotlighted

(spotlit?) all around the bushes and also found nothing and no one. They had taken Tom to a hospital to get his hand fixed; he had fallen down in University Street, but wasn't badly hurt. Much excitement, though--- Boris will probably tell you all about it.

My roommates and I were given 30 days notice on the night of July 31, because our building has been sold and the new landlord wants to live in our apartment. So, with only a few days remaining before leaving for Europe, I had again to play hunt-a-house game. Just this morning, however, a miracle occurred. We found a vast (almost whole second floor) place with fireplace and big porches, in the second house above the church on Breese Terrace. The landlady is pleasant, the rent is moderate, and none of the walls are painted lavender or chartreuse. All almost too good to be true.

Nothing much else has happened.

Yours,

*Helen*